

### **REMARKS**

In this Amendment, Applicants amend the specification and claims 1, 6, 14, 20, and 22 to more appropriately define the present invention. Upon entry of this Amendment, claims 1-34 remain pending and under current examination.

#### **Regarding the Office Action:**

In the Office Action, the Examiner rejected claims 1-34 under 35 U.S.C. § 102(e) as being anticipated by Timans et al. (U.S. Patent App. Pub. No. 2004/0149715 A1) ("Timans").

Applicants traverse the rejection for the following reasons.<sup>1</sup>

#### **Regarding Amendments to the Specification and the Claims:**

Support for the amendments to the specification may be found in the original disclosure at, for example, Figs. 1, 7, 8, 12, and 13. Support for the amendments to claims 1, 6, and 22 may be found in the original disclosure at, for example, p. 17, line 16 to p. 18, line 26, and Figs. 7, 8, 20, and 21. Support for the amendments to claim 14 may be found in the original disclosure at, for example, p. 9, lines 8-22, p. 10, lines 14-22, and Figs. 1, 7, 8, 20, and 21. Support for the amendments to claim 20 may be found in the original disclosure at, for example, p. 23, lines 1-23, p. 24, line 20 to p. 25, line 2, and Figs. 12 and 13. No new matter has been added by these amendments.

#### **Request for a Complete PTO-892 Notice of References Cited:**

The Examiner included Timans on the PTO-892 included with the Office Action, but did not include Sheets (U.S. Patent No. 4,698,486) ("Sheets"). The Examiner relied on Sheets, which was incorporated by reference in Timans, in his rejection of the pending claims. To the

---

<sup>1</sup> The Office Action contains statements characterizing the related art, case law, and the claims. Regardless of whether any such statements are specifically identified herein, Applicants decline to automatically subscribe to any statements in the Office Action.

extent that the Examiner is using Sheets as a reference against Applicants' claims vis-à-vis its incorporation in Timans, Applicants request that the Examiner properly list Sheets on a PTO-892 in the next communication from the Office.

Applicants respectfully remind the Examiner that "In citing references for the first time, **the identifying data of the citation should be placed on form PTO-892** 'Notice of References Cited,' a copy of which will be attached to the Office action. No distinction is to be made between references on which a claim is rejected and those formerly referred to as 'pertinent.'" M.P.E.P. § 707.05(c), 8th Ed. (Rev. 2), May 2002, p. 700-112 (emphasis added). Furthermore, before the present application is allowed, "[a]ll references which have been **cited by the examiner** during the prosecution[...] **must be listed** on either a form PTO-892 or \* >on an Information Disclosure Statement (PTO/SB/08, old PTO-1449) and initialed<." M.P.E.P. § 1302.12, p. 1300-13 (emphasis added).

Applicants will demonstrate below that Timans and Sheets do not anticipate the claimed invention.

**Rejection of Claims 1-34 under 35 U.S.C. § 102(e):**

Applicant respectfully traverses the rejection of claims 1-34 under 35 U.S.C. § 102(e) as being anticipated by Timans.

In order to properly establish that Timans anticipates Applicants' claimed invention under 35 U.S.C. § 102, each and every element of each of the claims in issue must be found, either expressly described or under principles of inherency, in that single reference. Furthermore, "[t]he identical invention must be shown in as complete detail as is contained in the ... claim." See M.P.E.P. § 2131, quoting *Richardson v. Suzuki Motor Co.*, 868 F.2d 1126, 1236, 9 U.S.P.Q.2d 1913, 1920 (Fed. Cir. 1989).

Timans, and Sheets, which is incorporated by reference in Timans, do not disclose each and every element of Applicants' claimed invention, despite the Examiner's allegations.

Timans and Sheets, taken alone or in combination, do not disclose at least Applicants' claimed

annealing furnace, comprising: [...] an introduction conduit connected to the gas supply system configured to supply the gas in parallel to a surface of the substrate; an exhaust conduit facing the introduction conduit configured to exhaust the gas from the processing chamber; a protective member made of quartz configured to prevent oxidation or corrosion on side and bottom inner walls in the processing chamber (claim 1);

manufacturing apparatus, comprising: [...] a first introduction conduit supplying a first gas in parallel to a surface of the substrate, a first exhaust conduit facing the introduction conduit so as to exhaust the first gas from the processing chamber, a protective member made of quartz configured to prevent oxidation or corrosion on side and bottom inner walls in the first processing chamber (claim 6);

annealing method, comprising: [...] introducing at least one of an oxidation gas and a nitridation gas in parallel to a surface of a substrate loaded on a susceptor in a processing chamber from an introduction conduit to an exhaust conduit, the introduction conduit and the exhaust conduit each connected to a top portion of sidewalls in the processing chamber and facing each other (claim 14);

or

manufacturing method of an electronic device, comprising: [...] introducing a first gas in parallel to a surface of the substrate loaded on the first susceptor from an introduction conduit to an exhaust conduit, the introduction conduit and the exhaust conduit each connected to a top portion of sidewalls in the processing chamber and facing each other (claim 22).

In contrast to the claimed invention, Timans's Fig. 1 discloses a pulsed processing system 30 including a processing chamber 34 inside which is disposed a substrate 36, a support 38 to hold a substrate 36, isolated from background heating sources 44 located below the substrate 36 (*See also* par. [0061]), background heating performed using susceptors (*See also* par. [0063]), a number of ambients including oxidation and nitridation ambients (*See also* pars. [0165]-[0167]),

a quartz window 46 located above the substrate 36 (*See also* par. [0061]), pulsed heating sources 46 capable of generating energy pulses to heat the front side of the substrate 36 (*See also* par. [0064]) enclosed by filters 48 to selectively filter a pyrometer-wavelength radiation (*See also* par. [0065]), the pulse width of the energy pulse in the range of 1 ns to 50 ms (*See also* par. [0088]). Nothing in Timans, however, constitutes at least the above-quoted elements of Applicants' claims 1, 6, 14, and 22.

Moreover, in contrast to the claimed invention, Sheets, which is incorporated by reference in Timans, discloses, in Fig. 4, an apparatus for rapid heating including an optical cavity including kaleidoscope 10a in which a wafer 18 is disposed (*See also* col. 9, lines 45-49), support elements 24 formed of quartz, connected ring 22 to support the wafer 18 (*See also* col. 10, lines 1-10), a gas source 81 supplying the gas to the optical cavity via conduits 83 and 84 (*See also* col. 20, lines 20-24), a quartz window 68a separating the cavity portion adjacent wafer 18 (*See also* col. 19, lines 10-12), pulsed or flash source 46 being flash tubes 47 to heat the wafer 18 (*See also* col. 11, lines 38-56), and a pulse duration of the pulsed lamp from 5 ms to 1000 ms (*See also* col. 16, lines 14-15). Additionally, Sheets discloses, in Fig. 12, loading cassettes 79 (*See also* col. 20, lines 3-7), a housing 71, in which loading cassettes 79 are provided, having a rotating support apparatus 77 mounting support rings 21 (*See also* col. 20, lines 3-24), unloading cassettes 80 (*See also* col. 20, lines 3-7). However, nothing in Sheets constitutes at least the above-quoted elements of Applicants' claims 1, 6, 14, and 22. In addition, Sheets also fails to disclose the claimed "susceptor located in the processing chamber [...] having an auxiliary heater for heating the substrate" (claim 1).

Timans and Sheets, taken alone or in combination, therefore do not anticipate Applicants' independent claims 1, 6, 14, and 22. Independent claims 1, 6, 14, and 22 are therefore allowable,

for the reasons argued above, and dependent claims 2-5, 7-13, 15-21, and 23-34 are also allowable at least by virtue of respective dependence from allowable base claim 1, 6, 14, or 22. Therefore, the improper 35 U.S.C. § 102(e) rejection of claims 6-9 should be withdrawn.

**Conclusion:**

In view of the foregoing, Applicants request reconsideration of the application. Pending claims 1-34 are in condition for allowance, and Applicants request a favorable action.

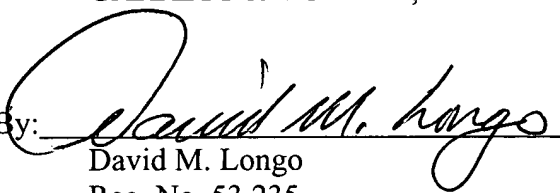
If there are any remaining issues or misunderstandings, Applicants request the Examiner telephone the undersigned representative to discuss them.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,  
GARRETT & DUNNER, L.L.P.

Dated: June 2, 2005

By:   
David M. Longo  
Reg. No. 53,235

/direct telephone: (202) 408-4489/